

Results Work Package 5

University education and R&D

Additional Result: Digitalization in the smallest companies

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Languages

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Content

Summary and Introduction

Additional Result: Digitalization in the smallest companies

Summary and Introduction

For SMEs in the Baltic Sea Region to remain competitive in the long term, it is necessary to increase their innovation capacity and reduce the gap between qualification requirements and demands. For this reason, the Knowledge Alliance "Human Resources and Organizational Development", consisting of eleven partners from four countries, relies on increased cooperation between universities and companies in order to realize education and innovation promotion. To reach as many SMEs as possible, chambers strengthen the partnership between universities and companies.

Human capital is the most important resource for strengthening innovation and productivity. Hence, the project focuses on the comprehensive promotion of Workplace Innovations. While there is great need for further development in this area in the countries south of the Baltic Sea, Workplace Innovations are already more advanced in the Scandinavian countries. Therefore, the project involves countries from both regions.

The alliance, which will be extended to 68 partners from 13 countries and permanently continued, focuses on cooperation in two areas. First, the development, testing, and implementation of SME-specific methods, instruments, and projects through R&D work at universities, that create workplace innovations in areas such as employee recruitment, motivation and digitization, a more innovative working environment and more efficient use of human capital. Second, the strengthening of awareness and competences in this new area of innovation promotion for small and medium-sized enterprises in the Baltic Sea Region through qualifications. The project will develop and implement:

- a) three comprehensive continuing education programs: "Digitization & Human Capital", "Employees on the way to Co-entrepreneurs" and "Innovation Processes".
- b) a dual bachelor's degree course: "Human Resources and Business Administration".

All products and further results will be transferred to 68 actors from 13 countries.

The work to develop the output of Work Package 5 "University education and R&D" was carried out entirely as planned in the project application. During the implementation of the project, it became apparent in all project countries, especially in Finland, that smaller companies are not already prepared to deal with questions of promoting the humanisation of working life in general and in connection with digitalisation in particular, and to participate in training. In order to prevent conflicts between the smaller employers and their employees and to support the humanisation of working life, it is considered necessary to carry out an analysis of the current situation, i.e. the digital maturity of the small enterprises in Finland, as well as in the other countries involved in the KA4HR project. The research will consist of semi-structured interviews and questionnaires addressed to owners and workers of randomly selected enterprises. The results of this additional activity will provide information on how to stimulate interest in training and education and provide

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application notes for the future use of the of the project results for the smaller enterprises.

The results of the analyses "Digitalisation in the smallest companies" are listed below.

Digitalization in the smallest companies

Contemporary situation in the region Satakunta, Finland

Satakunta University of Applied Sciences (SAMK), project partner number 2

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Introduction

The digitalization is one of the phenomena, that are causing the biggest changes and challenges in the field of entrepreneurship, and in the working life. The European Union has included the digitalization as an essential part of its agenda 2030. The digitalization is both a tool when gaining the goals of sustainable development, and a goal by itself.

During the implementation of test training “Digitalization and HR” in Finland it was found out, that it was very hard to motivate the small and medium size enterprises, and particularly those with 1-5 employees, to participate the training. The denying was mostly reasoned with the lack of time, the Covid19 era, or other reasons caused by the exceptional locked-in situation in Finland. However, in most answers gained, there was also a negative tone concerning the phenom called “Digitalization”. The entrepreneurs did not find it necessary to train nor to study this topic.

On the other hand, the workers, and their trade unions (For ex. PAM and SAK) find that digitalization will have an important role in future work life and have in publicity required more investments into training and education to increase the preparedness of the workers to adopt the new skills.

This juxtaposition between employers and employees in the smallest companies is not yet visible, but it may lead the smallest enterprises into lack of skilled young employees if the potential workers are seeking job places in which their skills and willingness to learn new things are valued. To avoid this kind of situation, to prevent the conflicts between the smallest employers and their employees, and to support the humanization of the working life, it has been found necessary to raise a discourse concerning the digital maturity of the smallest enterprises.

To be able to do this, an analysis of the contemporary situation, i.e., of the digital maturity of the smallest companies in Finland, as well as in the other countries involved in the project KA4HR, was found necessary be done. The research consisted of semi-structured interviews and questionnaire directed to owners and workers of randomly selected enterprises in fields of construction, tourism and welfare and beauty services, was designed. The results were expected to give a picture of contemporary situation and address the areas in which there are most to be done. It was also considered obvious, that conducting the research would act as a source of inspiration and raise an interest in training and education.

Satakunta University of Applied Sciences has designed and conducted this study as a part of project KA4HR.

The frames of the research

Satakunta is a region located in the west coast of Finland. In the area there are two bigger cities, Pori, that is the capitol of the region, and Rauma. Both cities are seaports, partly competing each other in the branches of export and import transport, although both have specialized to certain types of freight. Both Pori and Rauma have traditionally been industrial cities. In Pori, in addition to port and shipyard, the heavy mechanical engineering industry, metal industry, chemical industry, lumber and paper industry, and textile industry were big employers until the end of 1980's. In Rauma, the port, shipyard and lumber and paper industry were big employers, and even if there were big restructuring during the “Big Finnish Depression” in the beginning of 1990's in Rauma too, among the list of most remarkable employers there are still shipyard and lumber industry.

Between Rauma and Pori there is Olkiluoto nuclear power plant, the third reactor of which has now been built for 30 years. In Harjavalta the heavy industrial park has succeeded to save its status as big local employer, attracting also new industrial plants like the green hydrogen industry. Kankaanpää used to be known of its footwear, house building and brickyard industries, and in the end of 1980's there were built new metal and construction material industries. However, the economic collapse in the beginning of 1990's, the shutdown of soviet business and reorganization of Finnish construction industry ended the work of most footwear-, brickyard- and house building workers, and after that the economic activities in Kankaanpää have not reverted to type.

However, during and after the great Finnish depression many of those having been left unemployed started a new career as entrepreneurs and subcontractors of their former employers. They found also new contractors, like RMC (Rauma Marine Constructors), Olkiluoto nuclear plant, or Heavy industrial park at Harjavalta, who, bearing in mind the lessons of depression, preferred subcontractors in almost every level and task instead of hiring their own staff. This enabled the birth of new SME-businesses, not only in traditional branches, but also in maintaining, industrial services, designing etc., some examples to be given.



Figure 1: Region Satakunta and its connections (Source: <https://satakunta.fi/satakunta-aineistot/>)

Ulvila has during the past years become a centre of automation and robotics industry whereas Huittinen, Säkylä and Eura are still very agricultural with only few industrial enterprises. However, particularly Huittinen has within the 2020's succeeded to attract new enterprises and entrepreneurs to the municipality.

In the year 2021 the total number of businesses in Satakunta was about 13200 enterprises. At least 9000 of these were so called micro enterprises with 1-4 employees. (Satakuntaliitto, 2021) The "at least" is due to the fact, that in the statistic there are 2800 enterprises whose number of workers is unknown. Either they are individual entrepreneurs with no employees or there is some other reason why the number of

personnel is unknown (Table 1). It is good to realize, that the next steps up to the limit of SME-criteria are all together only 1129 enterprises, thus, the smallest enterprises are playing, despite of their size, a very remarkable role in the economy of Satakunta.

Table 1: Number of enterprises in Satakunta (Satakuntaliitto, 2021)

Number of enterprises per personnel	
Size of personnel	Number of enterprises
A Not known	2 837
B 0 – 4	9 012
C 5 – 9	591
D 10 – 19	431
E 20 – 49	224
F 50 – 99	76
G 100 – 249	31
H 250 – 499	15
I 500 – 999	4
J 1 000 -	3
Total	13 224

The enterprises represent a variety of branches. Some of the enterprises are active in more than one branch, thus the total calculated out of the list of branches is bigger, 16763 items.

Table 2: Enterprises by branch in Satakunta (Satakuntaliitto, 2021)

TOL2008 - branch classification by Stat.fi	Number of enterprises
G Whole sale and retail trading, maintaining of motor vehicles	2580
F Construction	2444
M Occupational, scientific and technical activities	1716
C Industry	1536
A Agriculture, foresting and fishing	1401
S Other services	1355
Q Health and social services	1036
H Transport and warehousing	1001
N Administrative and supportive activities	801
L Immobilities	604
I Accommodation and restaurant business	555
R Arts, entertainment and recreation	447
J Informaton and communication	392
K Financing and insurance	309
P Education	294
D Electricity, gas, heath and cool	80
E Water, waste water and waste management	75
B Mining	62
X Unknown	44
O Governmental and military activities, Obligatory social security insurance	29
T Households as employers	1
U International organizations	1

The settings of the research

The research was designed, conducted, and analyzed within a very limited period in the autumn 2021. Thus, the process had to be kept as simple as possible. First phase was to design and test the questionnaire used to gather the data. After the questionnaire was tested by one of the interviewers with some voluntary interviewees, the corrections were made, and the questionnaire was transferred to the electronic survey system E-Lomake.

The research question

The research was designed to answer one main question: Are the smallest enterprises in Satakunta prepared enough for the ongoing digitization and digitalization.

Interviews

Since we had in earlier research found out, that it is almost impossible to have enough answer by just sending the link e.g., via e-mail, and asking receiver to complete the questionnaire, the survey was conducted by interviews, mostly during the telephone conversations, but in some cases also face-to-face interviews were used. The interviews were conducted during the November and beginning of December.

The interviewer had the E-lomake application open in his/her computer during the interview, and the answers were input direct to the database without having to do the same work twice. At the same time he interviewers held a bookkeeping of their own of how many were called and how many actually answered to the questions.

Once again it was learned, that answering the surveys is not on the top in the entrepreneurs' preference list. Out of the randomized sample of 1000 enterprises, which would have been about 10 per cent of the target group, 195 were got contact, and out of these, 79 agreed to answer the questions. Thus, the response rate is 7,9 per cent of the sample and approx. 7,9 per mille of the whole target group.

Parallel with the domestic interviews, an international survey was conducted by sending the link to an English questionnaire to project partners of project KA4HR and asking them to spread the link within their business partners. Only few answers were gained, all of them from Germany. The original idea to compare Finnish results with the results from other partner countries did not realize.

Reporting

In this report, main findings concerning the situation in Satakunta will be presented, the meaning of them discussed, reliability and validity will be evaluated, and some recommendations will be given concerning the further activities. However, due to the lack of comparative material from other countries, no comparison between countries will be made.

Results

Background questions

The companies, who agreed the interview, represented various branches. The distribution of branches was not exactly like the distribution of all enterprises in Satakunta, but this is quite normal when approaching the smallest enterprises. (Figure 2: The branches of the enterprises. The size of the interviewed enterprises matched well to the size distribution of all enterprises in Satakunta, considering that the target group was just these smallest businesses (Figure 3Figure 4).

Most of the enterprises who responded the survey have been running for 6 years or more. Enterprises who had been running for 5 years or less were only 10 per cent of respondents. (Figure 5). Unfortunately, the age distribution of all the enterprises is not available. However, this finding is parallel with the history told above. Furthermore, it means that many of the respondents are in a phase where an entrepreneur is on the stepway to retire, and if the successor is not found, the business is close to shutdown. This became well clarified when reading the answers of entrepreneurs.

The person responding to the survey were mostly entrepreneurs and / or Managing Directors or CEOs of the enterprises. There were only few cases where the interviewee was either member of the board or

member of the staff. (Figure 6). In the questionnaire there was also question concerning the age of entrepreneur and average age of personnel, but there were so many who refused to answer this, that it is not relevant to present these results.

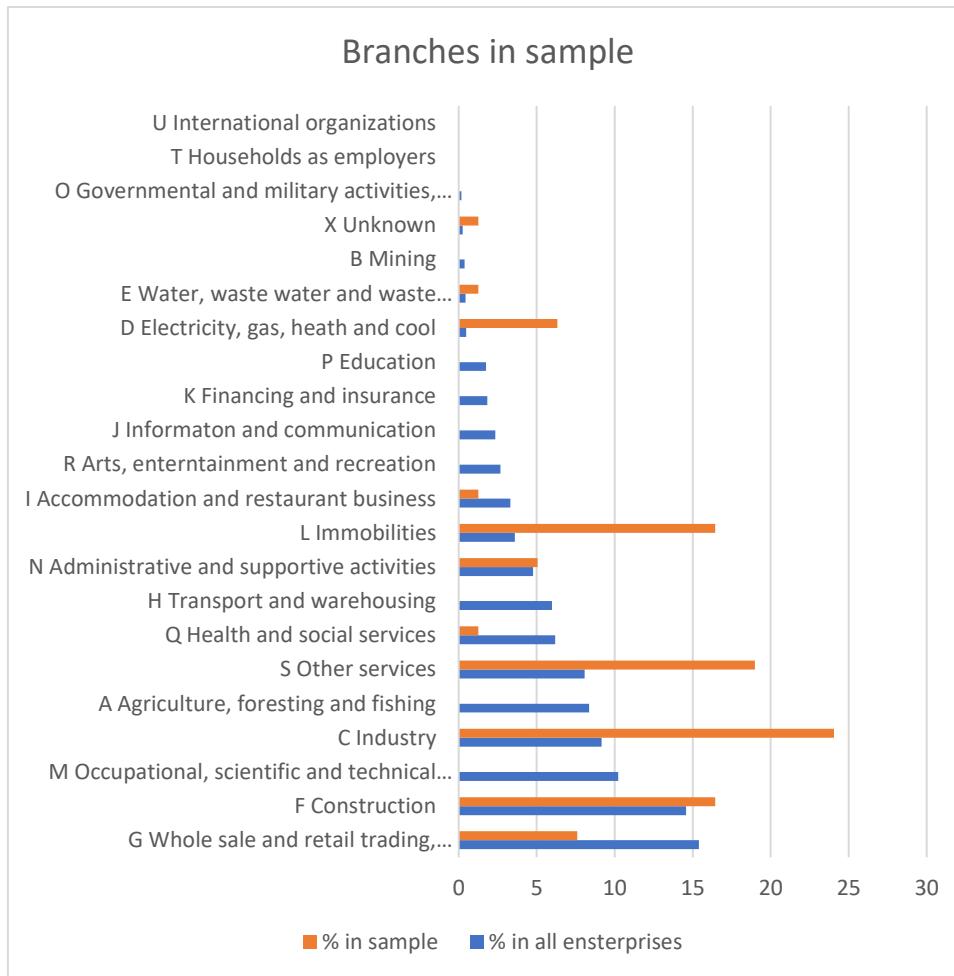


Figure 2: The branches of the enterprises

What is the size of your enterprise measured by personnel?

Relative distribution of the replies

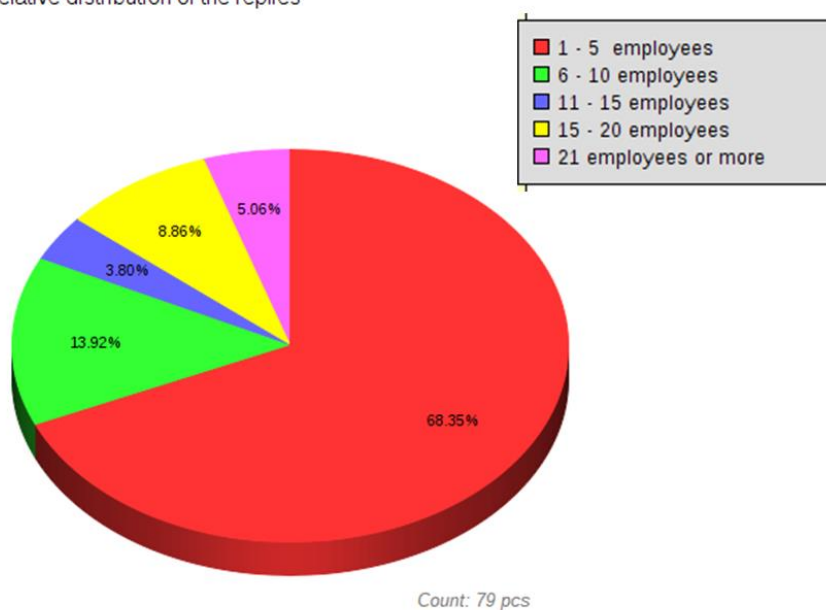


Figure 3: The size of the answered enterprises

Size of enterprises in Satakunta, distribution

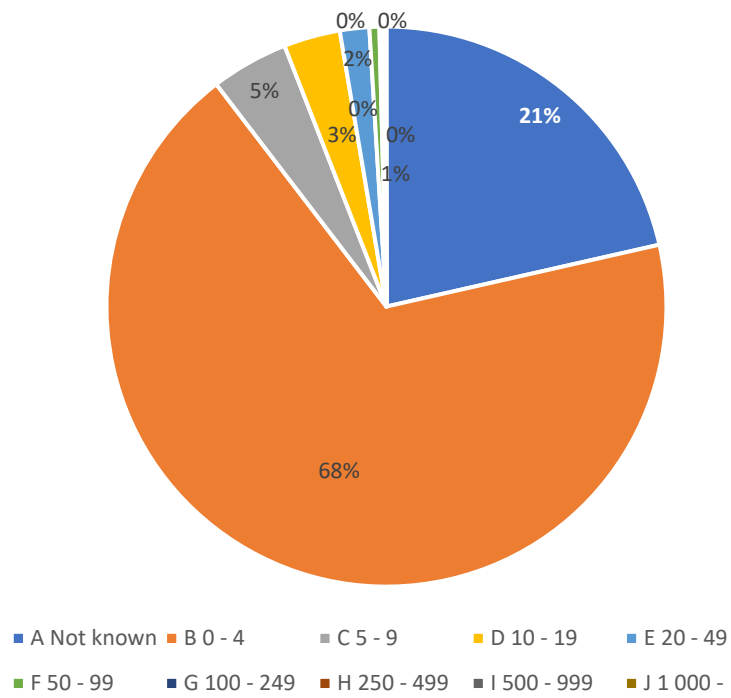


Figure 4: The size of the enterprises in Satakunta

How long has the enterprise been running?

Relative distribution of the replies

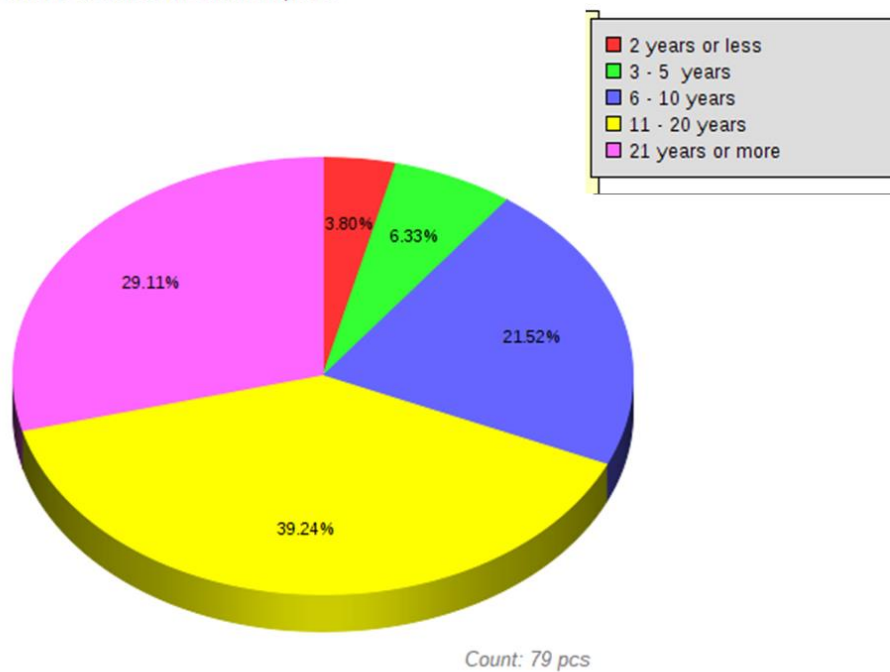


Figure 5: The age of responded enterprises

Position of the respondent in the enterprise

Relative distribution of the replies

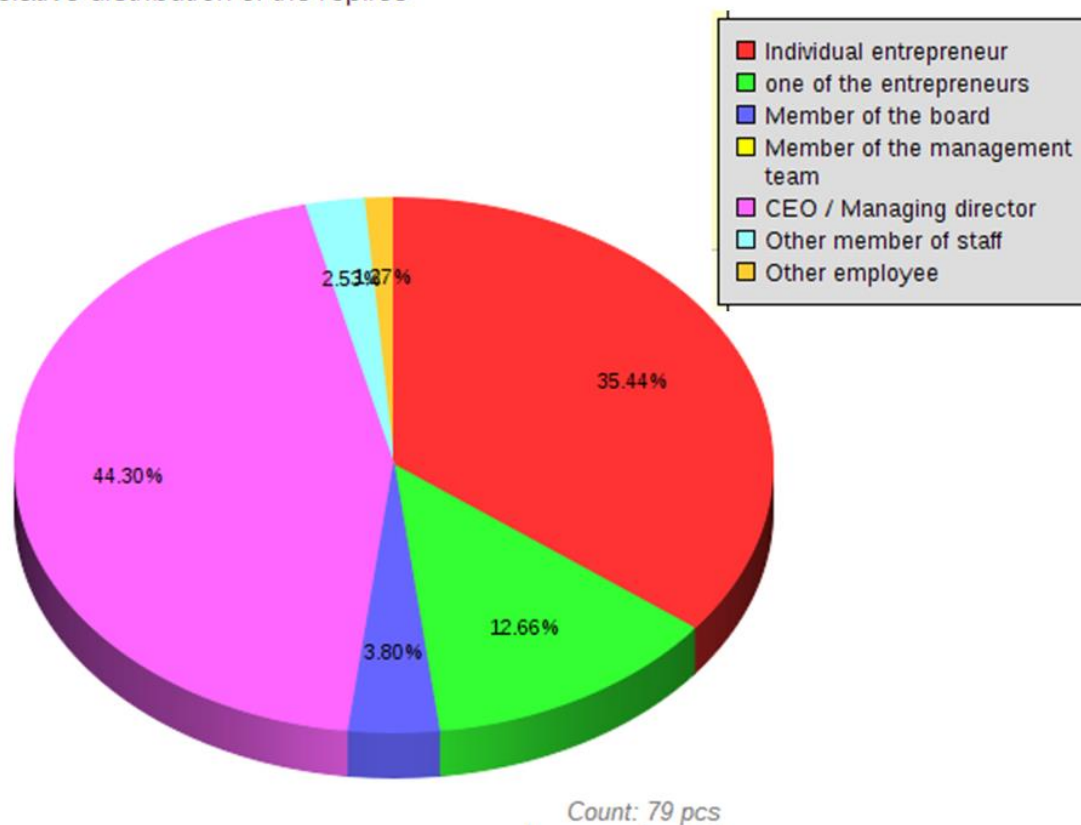


Figure 6: Possition of the respondent

The contemporary state in the digitalization

Digitalization can be seen as a strategic topic, as a mean or tool to develop contemporary business or just necessary but not preferred trend of common development. Out of the respondents 25 per cent had involved the digitalization in their strategy or at least discussed the issue while planning the strategy. The topics the discussion had concentrated varied from social media to the needs of branch, requirements of quality and internet of things (IoT). Also E-commercial 2.0 was mentioned in some replies. However, 38 per cent of respondents had not discussed the issue, and 37 percent did not have any strategy at all. (Figure 7).

The usage of digitalization can be divided into three parts. The usage of hardware, the usage of software and the usage of services. Out of equipment (Hardware) the most common tools were computer, mobile tools, and printers. The top three of the applications (Software) was built by Invoicing, bookkeeping and MS Office applications. The most popular services were home pages, Facebook, and E-mail. Also banking services was close to the top. (Figure 8).

To be able to be motivated to implement, learn, and use new tools, an entrepreneur must see concrete benefits gained from the innovations. The respondents were asked, what kind of benefits had they experienced they had gained from the new technology. The number one in the answers was saving time, the second was that new technology makes it easier to do things (What things, was not clarified) and the third issue was the improved communication between customers, suppliers, and other collaboration partners. (Figure 9).

Has the board of the company, other leaders or the entrepreneur considered the digitalization in the strategy of the enterprise??

Relative distribution of the replies

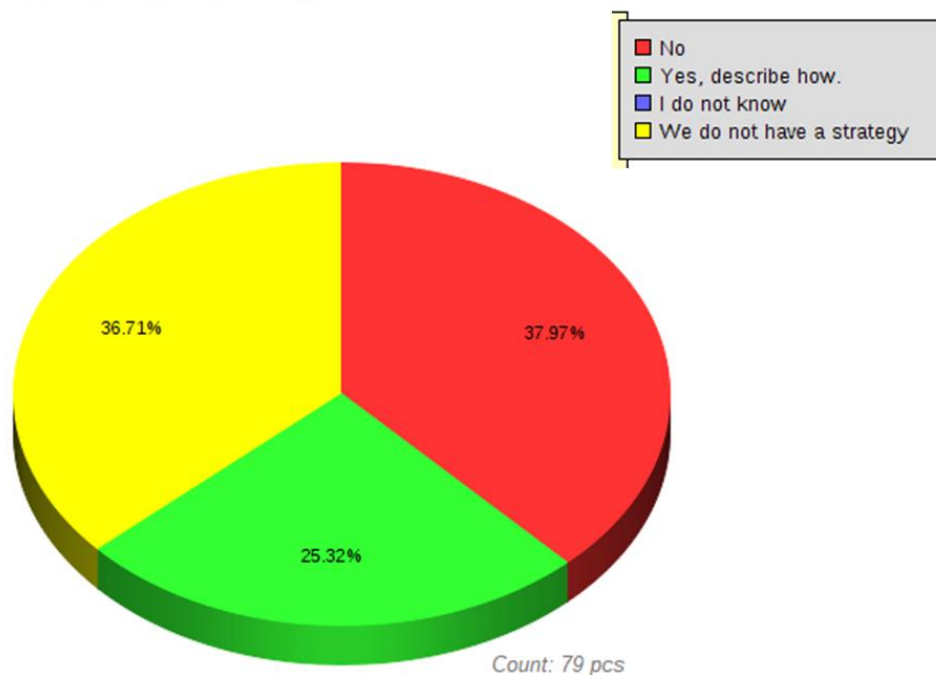


Figure 7: The digitalization and strategy

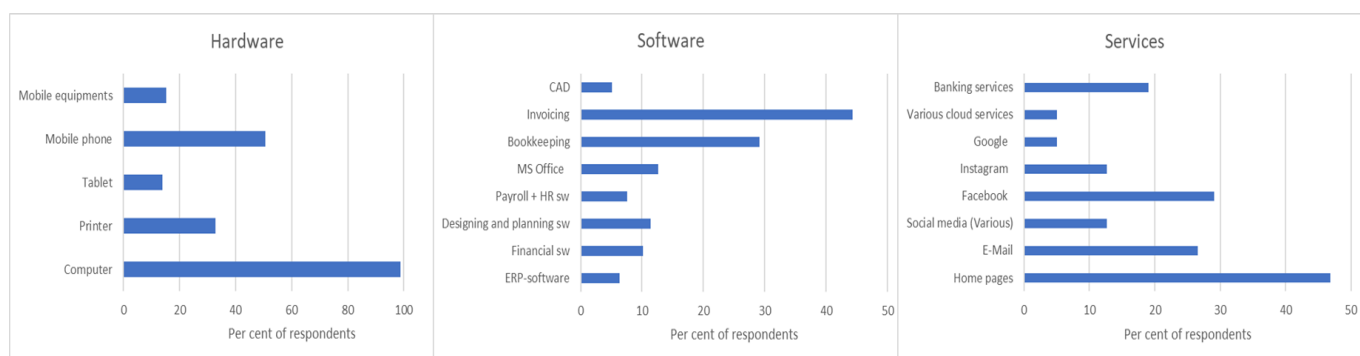


Figure 8: Used digital tools

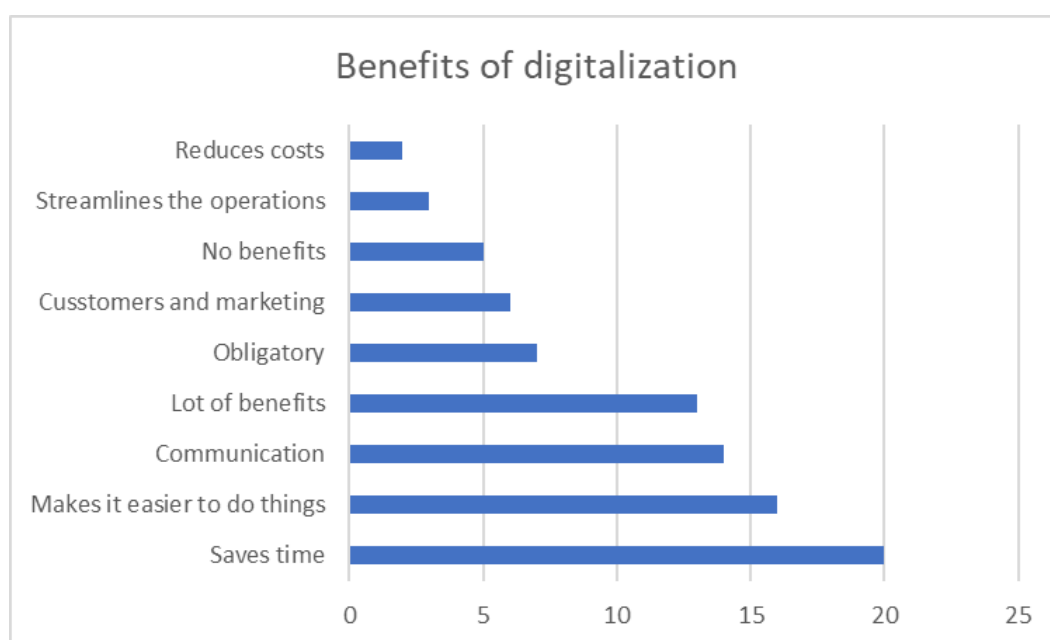


Figure 9: Experienced benefits of digitalization

The digitalization in the budget

Budgeting is one of the ways how an enterprise is planning its future. In common, the strategic planning covers the next 3, 5 or – in rare cases – 10 years period, whereas the budget commonly covers next year or next 12 months. Another difference between the strategic planning and budget is that strategic planning is more qualitative, including goals and descriptions on how the things will be in the future, whereas the budget concentrates on monetary issues: incomes, costs, debts, and assets. The way how the digitalization is considered in the budget, describes, not only it's place in the strategic planning, but also how the enterprise and entrepreneur are seeing the importance of digitalization within the next year.

In 63 percent of the companies, there was no budget as all, which, unfortunately, is quite normal in smallest companies: The budget is made only if someone (e.g., financing institute) requires. 14 percent included the ICT-costs into normal budget, without specifying them, and 11 percent specified the costs caused by digitalization inside the normal budget. 4 percent of the respondents had a particular ICT-budget, and 7,5 percent budgeted the ICT-issues in some other way, but the further question “what, how” remained unanswered. (Figure 10).

How is the purchase, usage, support, maintaining and training of digital devices and applications considered in your budget?

Relative distribution of the replies

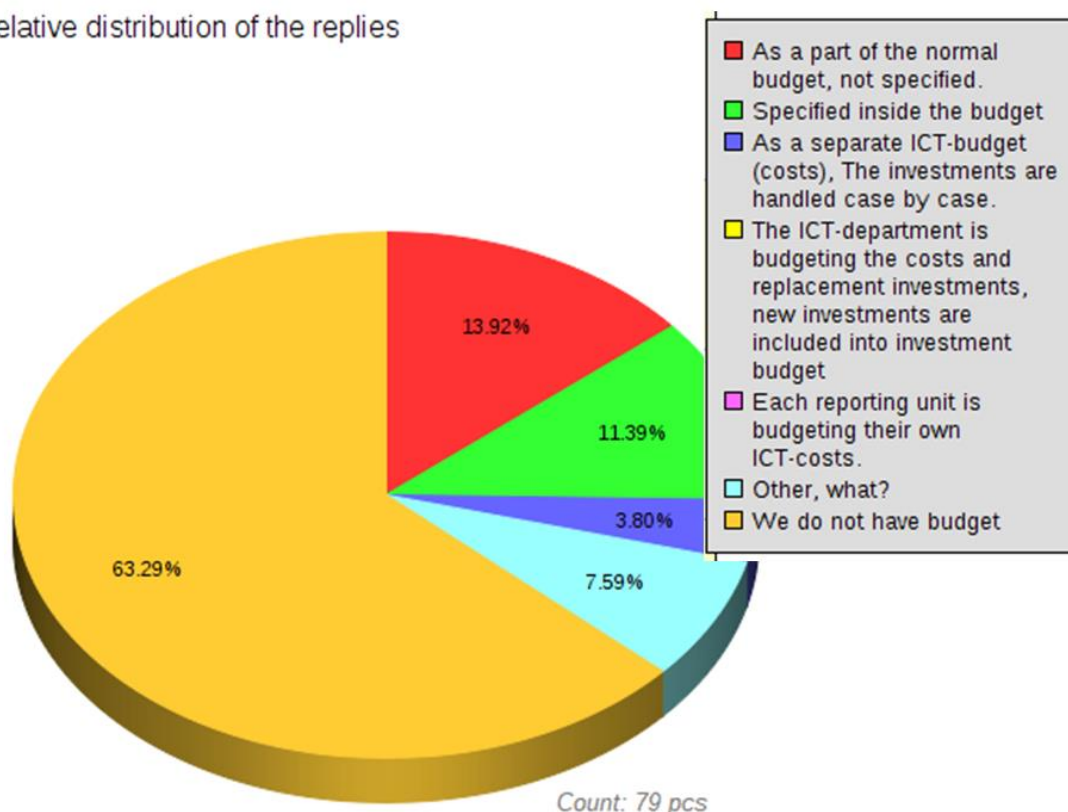


Figure 10: Budgeting the digitalization

Existing knowledge in the enterprises

The enterprises showed a strong trust to their capabilities: 63 per cent of respondents thought that personnel has the knowledge needed to implement and use the digital tools (Figure 11), and 71 per cent of respondents believed, that knowledge and needs match each other (Figure 12). However, in both topics there were 33 per cent of respondents saying that the personnel has not at all or partly enough knowledge, and 30 per cent of respondents saying that the knowledge does not match to the needs or that it match only partially.

Do you think that your personnel has knowledge enough for implementing and using the digital tools?

Relative distribution of the replies

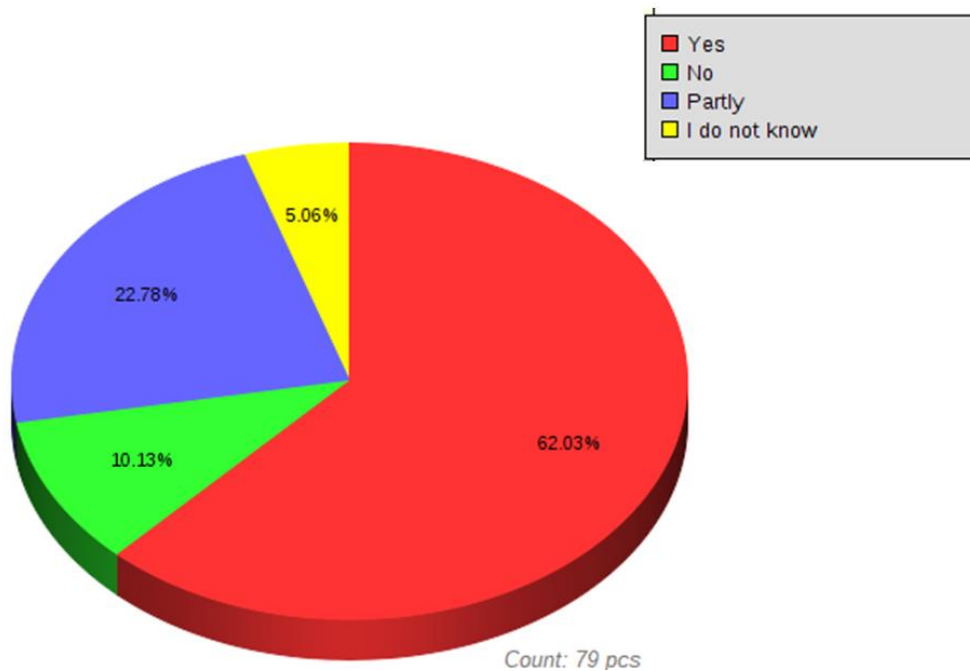


Figure 11: Enough knowledge?

Do the existing knowledge and needs meet each other?

Relative distribution of the replies

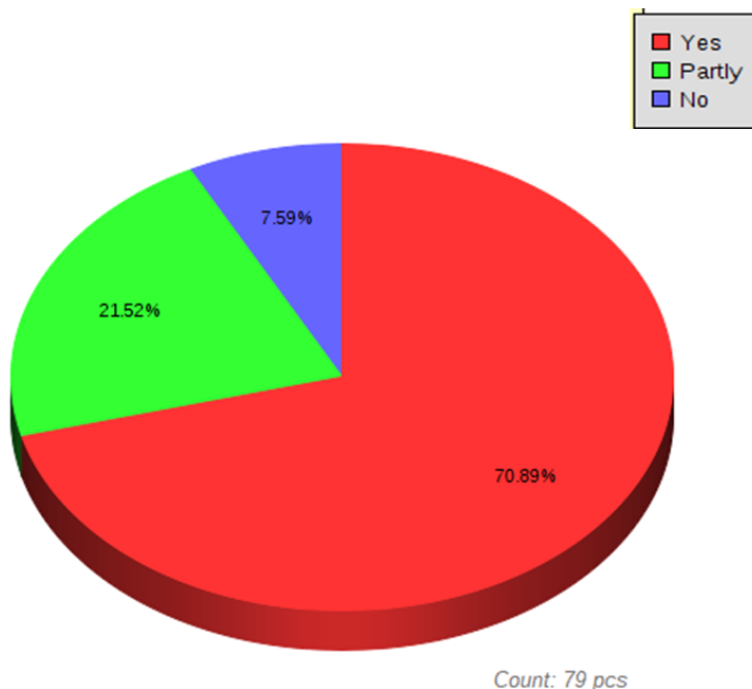


Figure 12: Knowledge vs needs

The logic continuum for this finding is to ask, that in which topics do you have lack of knowledge, how, and by whom you have gained the knowledge and support, and how would you like to gain it in the future. According to the answers, most lack of knowledge were experienced in topics concerning the concepts (e.g., AI, BI, Analytics, etc.), the opportunities of new technologies, legislation, regulation and instructions, and programs and applications (Figure 13).



Figure 13: Most lack of knowledge

There were also many other issues that gathered five or more mentions, and many enterprises had chosen more than one topic. The working with new technology is always challenging, particularly, if there exists a lack of knowledge. However, when asking “what kind of challenges you have met” roughly one third of the respondents answered, that they have had no problems. The biggest challenges were time available, missing IT-skills, weak communications, and problems with software (Figure 14)

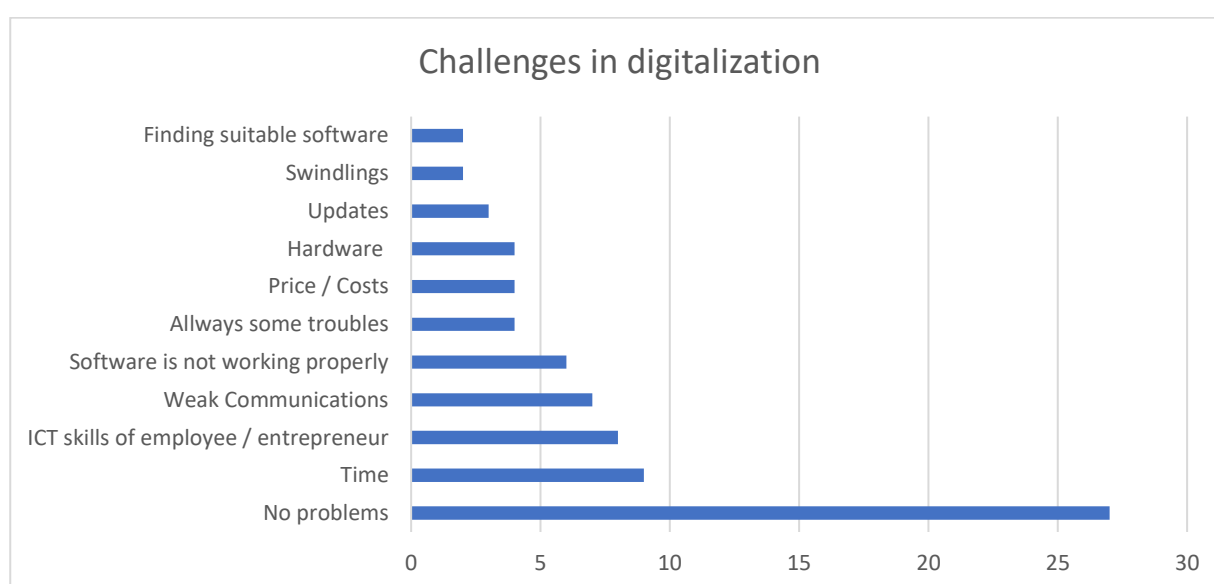


Figure 14: Challenges met

To get the things going, the enterprises had already got support or expected that they could get support mainly from commercial actors, like consults, program suppliers and service providores. The other institutional alternatives gained much less votes (Figure 15). However, when the question was formulated in other way “From whom would you wish to get the support and in what topics”. the answers were different. 23 per cent of the respondents did not know who could support and in which topics, 18 per cent of respondents said they do not need support, and 16 per cent did not answer anything. Three most popular sources of support were suppliers, training institutes, and ICT-support, which, according to answers should be dedicated to SME-business (Figure 16, Figure 17).

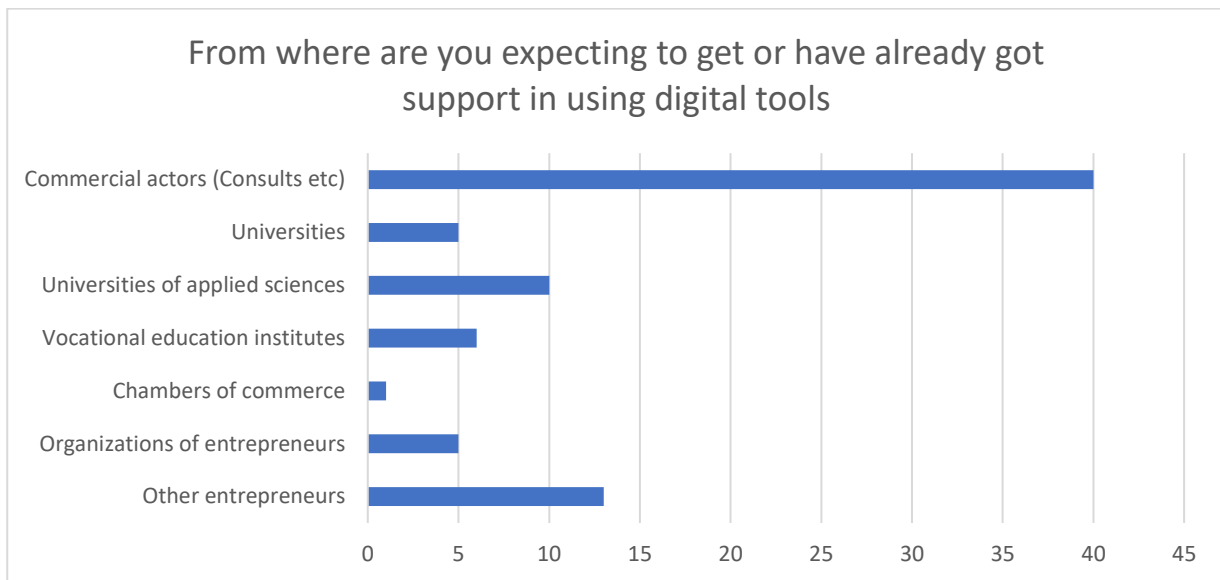


Figure 15: Who would support

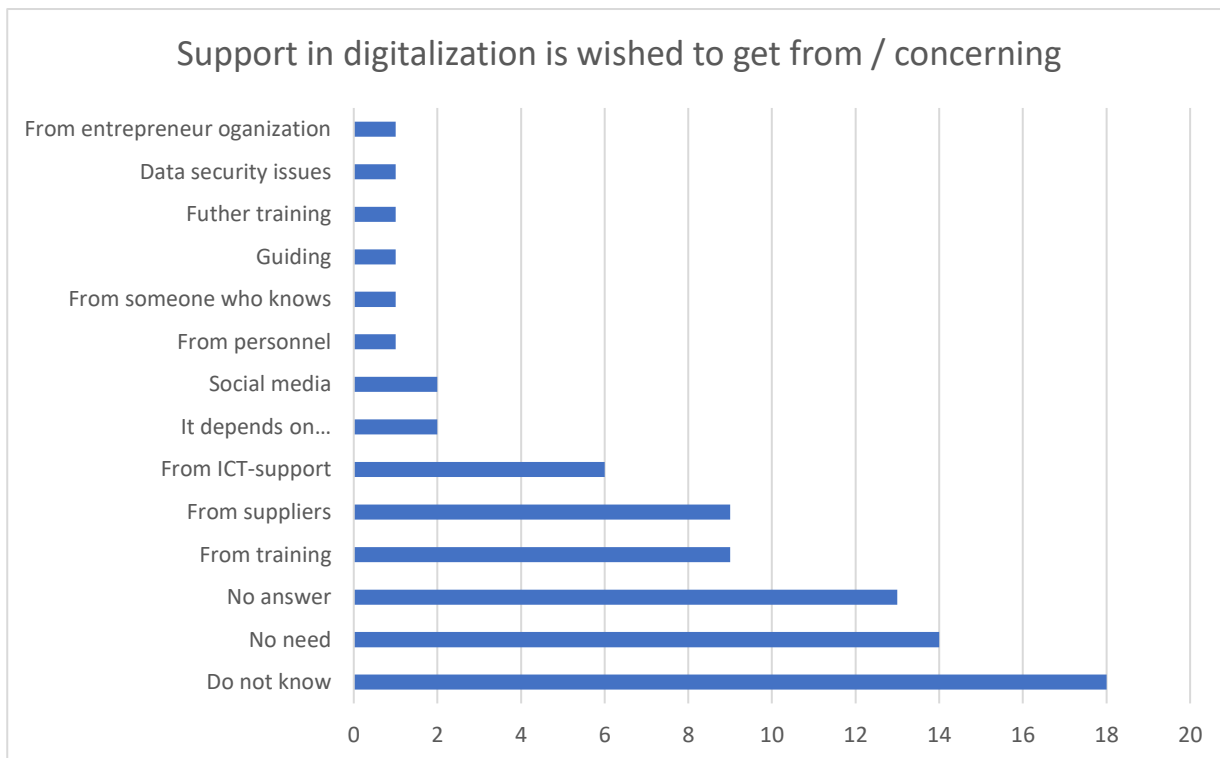


Figure 16: Wished support

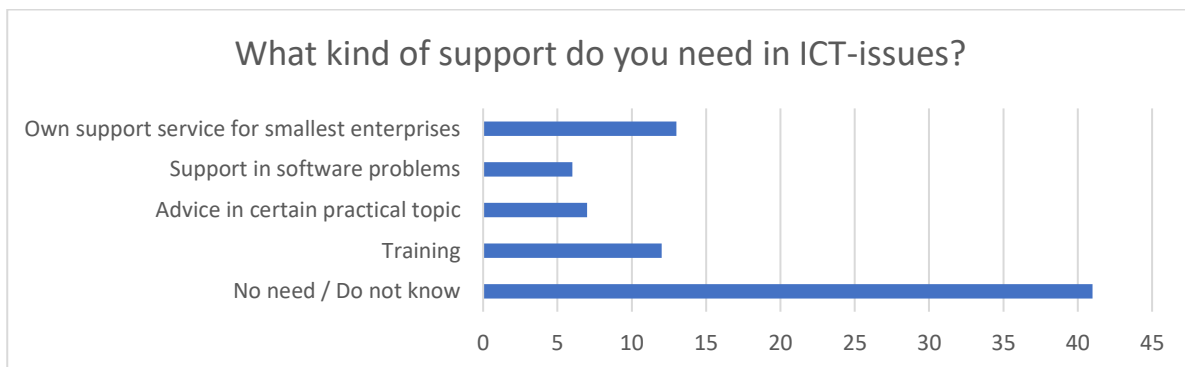


Figure 17: Support needed

The future development

Concerning the future development in the companies, the three most important issues are the role of digitalization in business development, the style of management in the company, and who is the decision maker in digital issues. According to the replies, majority (38 per cent) of the respondents found the digitalization giving opportunities to new forms of operations. However, almost as big part of the respondents considered the digitalization just a tool. 14 per cent of enterprises wished the digitalization give opportunities to completely new businesses and 12 per cent took the digitalization as end in itself or just a media (Figure 18).

What is the role of digitalization in developing the business?

Relative distribution of the replies

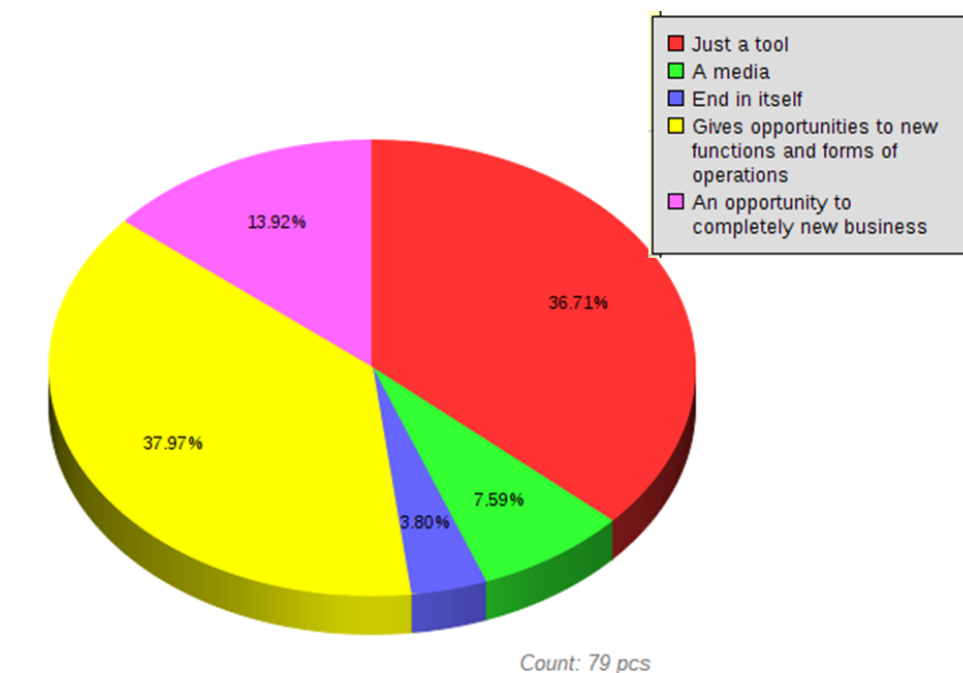


Figure 18: The role of digitalization

One of the most difficult questions for respondents was the question concerning the decision making in the enterprise. 50 of 79 respondents told, that the decisions are made after discussions, one told that he delegates the issues, and the other alternatives, describing more conservative ways to make decisions, gained 19 votes. 9 respondents passed the question without answering (Figure 19). Knowing the Finnish

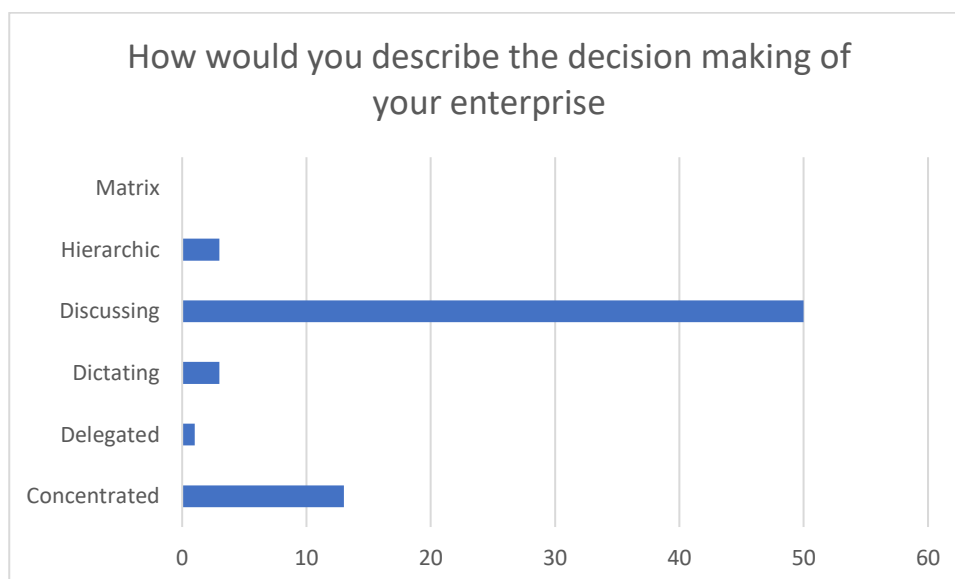


Figure 19: Style of decision making

owners of small enterprises, this result was not expected, and compared to the following question, who is making the decisions concerning the digitalization, the result seems even more unexpected. The decisions concerning the digitalization are in very great degree concentrated to the top of the hierarchy, owner, managing director or Board of Directors (Figure 20).

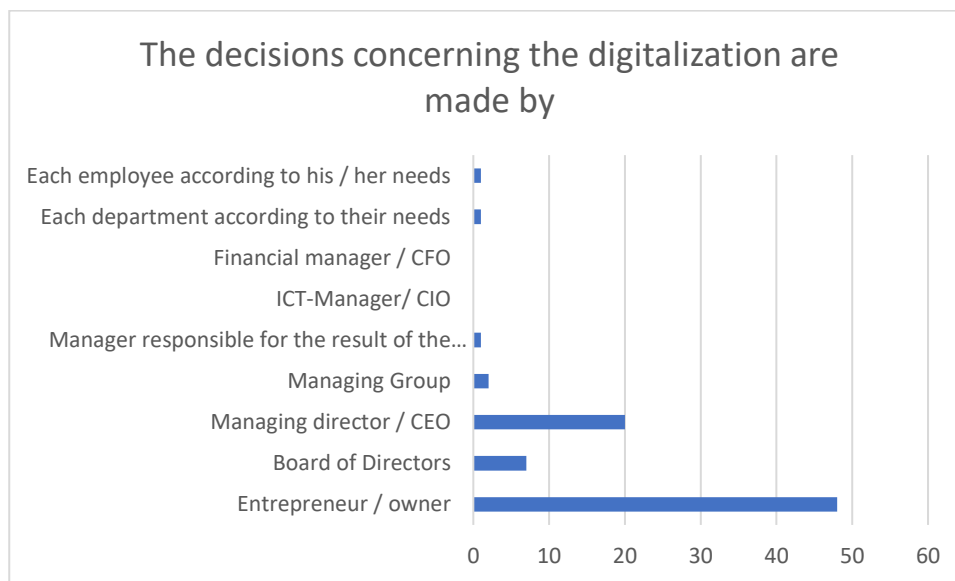


Figure 20: The decisions concerning the digitalization

The enterprises aim to develop their businesses in very different ways. Within the two years period, majority of companies will concentrate on their profitability, on growing in the contemporary market areas and on developing new products. However, there was also big part of respondents who informed that no changes will be made. The main goals withing the 5 years period were to grow in contemporary market area, to find new market areas, and to improve the profitability both by streamlining the operations , by increasing the value of the products and by increasing the volume. There were only few entrepreneurs who had a vision up to ten years period, and among them “no changes will be made” was the winner, but close to it were developing new business concepts, searching new market areas and growing in contemporary market areas (Figure 21)

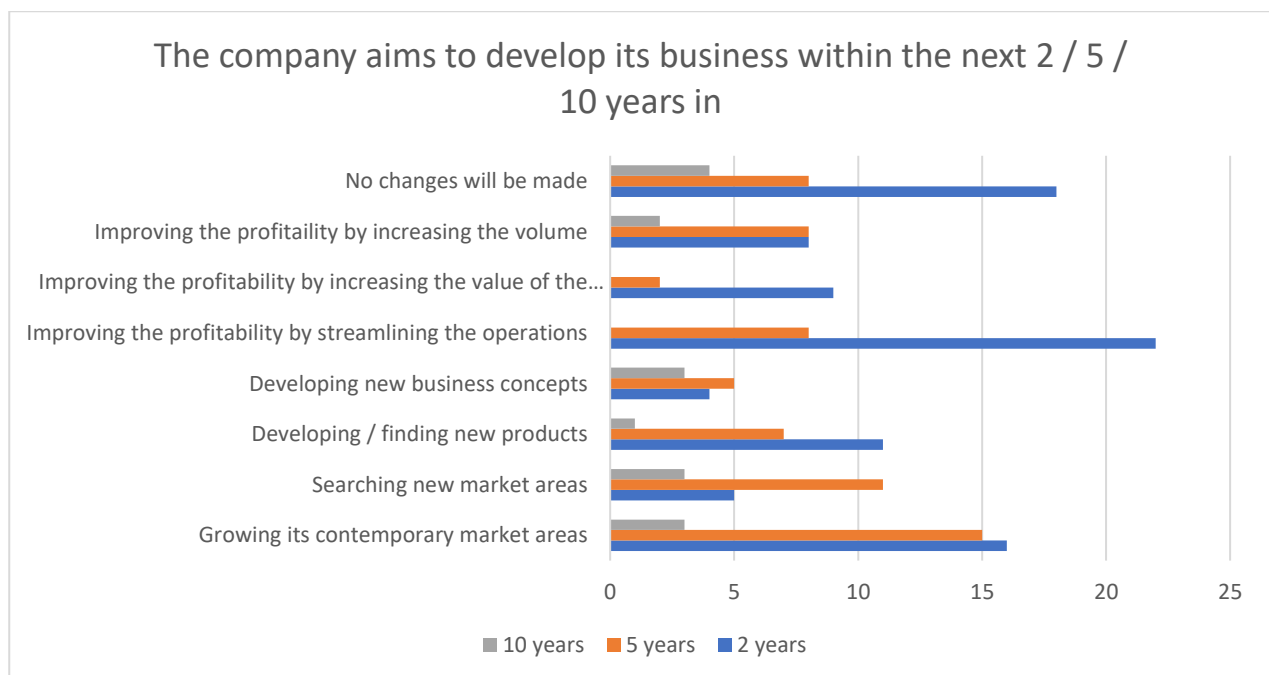


Figure 21: Developing the business within 2/5/10 years period

The future goals of the enterprises in the area of digitalization are parallel to their visions concerning the business development within the next years. Big part of the respondents (36) had no goals, or they did not

know any goals. Among the named goals, streamlining of the business, up-to-dateness, and supporting the growth were most named, but single votes were given also to issues like support of the quality, paperless business, and support for decision making, some examples to be given. (Figure 22).

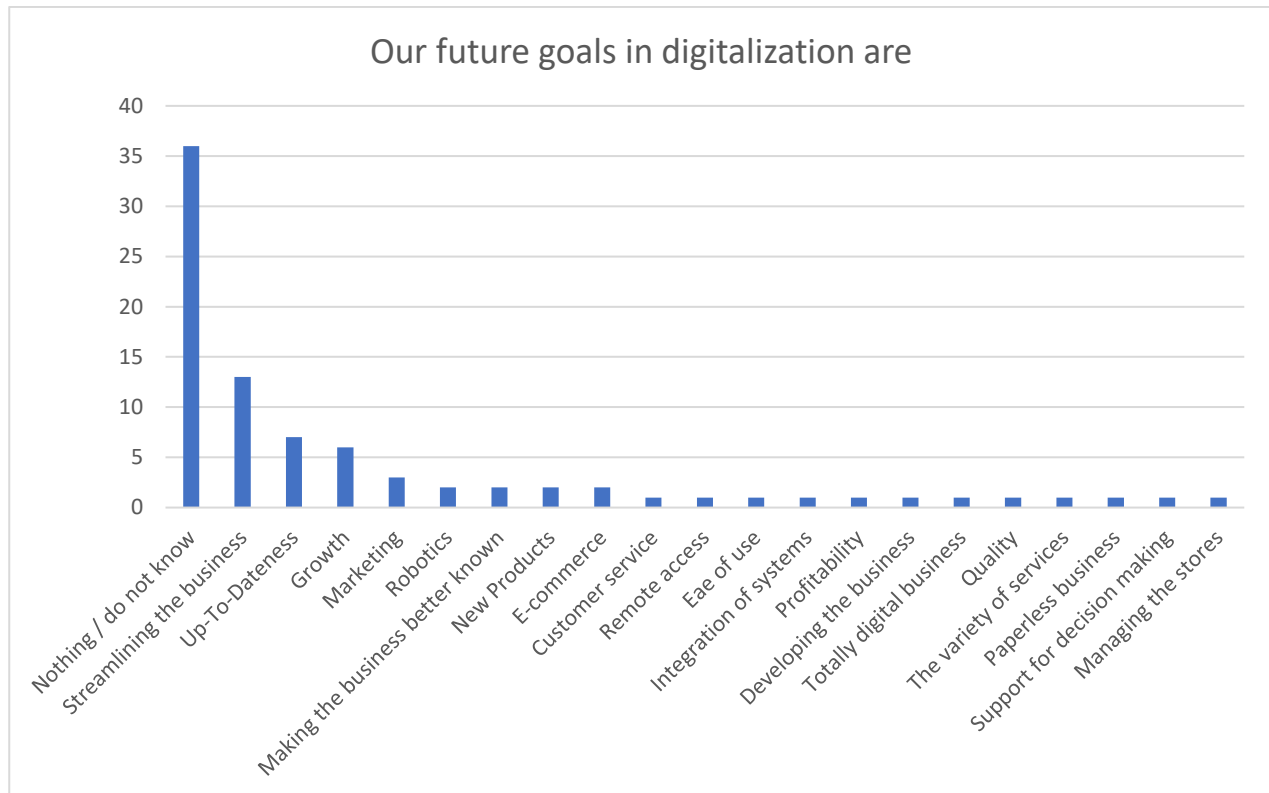


Figure 22: Goals in digitalization

Conclusions

The main research question was “Are the smallest enterprises in Satakunta prepared enough for the ongoing digitalization?”. According to the results, the situation seems to be divided. Part of the enterprises are well prepared, part of the enterprises are not prepared at all, and in some of the last named, the entrepreneur is just waiting for the retiring. However, there is also a big group of companies between the two poles, wishing and needing more education and training to improve their digital skills, but without knowing that to whom they should approach for help. Also the lack of time and the fear of costs are examples of the challenges on their way to improve their digital skills.

The results gained were in line with the hypothesis and answered to the research question. However, the final sample (those interviewed) was relatively small, thus, the generalizability of the research might be limited. The interviews were conducted by three interviewers, and the results gained by each of them are in line with each other. Thus, the probability of bias caused by interviewer is small. However, some kind of bias may be caused by the text of questions. The interviewers were prepared to explain the question if someone did not understand it, but has everyone dared to ask for explanation, and has the explanation been clear enough are issues we do not know.

It is recommended, that the possibility to offer on-line training of digital skills to the smallest companies will be considered seriously. Online training will on its part solve the problem of lack of time, when an entrepreneur has an opportunity to participate the training whenever he /she has time and choose just those issues that are needed at that moment. However, the question concerning the funding of the training remains still open.

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